COUNTER NBC

OPERATIONS

AIR FORCE DOCTRINE DOCUMENT 2-1.8

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This document complements related discussion found in Joint Publication 3-11, *Doctrine for Nuclear, Biological, Chemical (NBC) Defense.*

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FOREWORD

As stated in the *National Security Strategy*, the threat or use of nuclear, biological, and chemical (NBC) weapons is among the most alarming of all emerging threats to global security. NBC weapon use can be overt or covert, and the effects may be immediately evident or detected only after the passage of time. In all cases NBC weapons may adversely impact large numbers of people, civilian and military. In order for the Air Force to project combat power using its core competencies, it must be prepared to counter these weapons successfully. This requires a four-layered approach: proliferation prevention, counterforce, active defense, and passive defense. The integration of these concepts into aerospace operations will enable the aerospace forces of the United States to successfully operate despite confrontation with an adversary employing NBC weapons. Air Force Doctrine Document 2-1.8, *Counter NBC Operations*, provides a framework for understanding, planning, and executing this part of aerospace warfare.

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INTRODUCTION

PURPOSE

This Air Force Doctrine Document (AFDD) provides doctrine for countering nuclear, biological, and chemical (NBC) weapons and supports basic aerospace doctrine.

APPLICATION

This Air Force Doctrine applies to all active duty, Air Force Reserve, Air National Guard, and civilian Air Force personnel. This document is authoritative but not directive; commanders are encouraged to exercise judgement in applying this doctrine to accomplish their missions.

SCOPE

The need to counter the threat or use of NBC weapons applies throughout the range of aerospace operations. Counter NBC operations range from deterring or preventing an adversary from acquiring or using these weapons, to disrupting and limiting an attack, or surviving and restoring operations if attacked. This document integrates the Air Force approach to countering adversary NBC operations.

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CHAPTER ONE

COUNTER NBC OPERATIONS

> *Weapons of mass destruction pose the greatest potential threat to global stability and security.*
>
> **A National Security Strategy for a New Century, 1998**

Overview

The spread of nuclear, biological, and chemical (NBC) weapons and the means to deliver them present a serious security threat to US forces, allies, and interests around the world. Public attention has traditionally focused on nuclear weapons proliferation, but the spread of biological and chemical weapons also poses a genuine threat to national and international security. NBC weapons provide an adversary with asymmetrical means to counter US conventional military superiority. Use of NBC weapons has the potential to inflict large casualties on military and civilian populations, degrade the effectiveness of friendly forces, and create serious political and psychological repercussions.

Counter NBC operations are those activities taken to detect, deter, disrupt, or destroy an adversary's NBC capabilities and to protect friendly forces from NBC attack. The main components of Counter NBC Operations are proliferation prevention, counterforce, active defense, and passive defense. Commanders are responsible for assessing and planning for the effects of an adversary's use of NBC weapons across the

full operational spectrum from peacetime engagement to full-scale war. This requires an assessment of an adversary's intent and capability to employ NBC weapons. It also requires commanders to identify the effects of NBC weapons on the ability of US and friendly forces to prosecute a conflict and plan to counter such an attack if it occurs.

The Air Force's ability to deploy overwhelming force, apply highly-accurate precision attack, and provide robust logistical support are important to the full range of US military operations. These capabilities also make aerospace bases, personnel, and systems potential NBC targets. An NBC attack can adversely affect the Air Force's core competencies.

The NBC threat is not limited to situations outside of the United States. Use of NBC weapons by nation-states or non-state entities against targets within US borders is a possibility. Civilians and US military personnel may be targeted anywhere in the world, even when not engaged in combat operations. An adversary's objective may be to gain attention for a cause, retaliate for previous US actions, or erode public support and US resolve for ongoing or future operations. Aerospace forces prepare to counter the NBC threat by properly employing core competencies, prior planning, education, and training, and by close coordination with the other military Services and civilian agencies. Furthermore, a properly trained, equipped, and exercised force can deter an adversary from choosing to employ NBC weapons.

WEAPON CHARACTERISTICS

Nuclear

Nuclear weapons and their effects are generally well known. The technologies involved with the development and production of nuclear weapons are also well understood. The greatest difficulty in creating a weapon is acquiring enough fissile material—enriched uranium or plutonium, neither occurring in nature—to allow fission to take place. Over the past decades, non-proliferation efforts have focused on controlling the spread of these dangerous commodities. Despite efforts to prevent proliferation, nuclear weapons material has found its way to several developing countries and the potential exists for non-state entities hostile to the US and its allies to develop and use nuclear weapons.

Aside from direct damage to personnel, equipment, and structures from blast, heat, and radiation effects, nuclear weapons can cause massive damage and destruction to electronic infrastructure. Employed to optimize electromagnetic pulse (EMP) damage, a nuclear device may destroy or disable equipment and critical infrastructure while minimizing direct casualties. Unprotected communications, computers, sensors, and aircraft can be damaged or destroyed in an asymmetric attack that threatens the US technological lead. This might be done with considerably less political impact than would result from attacking a city or concentration of personnel directly and might be considered by some groups to be comparable to the systematic destruction of a nation's military capability by standoff precision weapons.

Radiological

Radiological dispersal devices (RDD) are a variation of nuclear weapons. An RDD is any device, other than a nuclear explosive device, that disseminates radiation to cause damage or radiation injury. Sources of this type material are spent fuel from nuclear reactors and low-level radioactive materials such as medical or industrial wastes. Some of these materials may be readily available in countries having lax control standards for this type of waste. An RDD contaminates a wide area, causing casualties by inducing radiation sickness. The device's effectiveness depends upon the type and amount of radioactive material and its dispersion. The direct effects may be militarily insignificant, but the political and psychological effects could destroy a coalition or disrupt the deployment of combat forces.

Chemical

Due to the ease of their manufacture, almost any chemical, fertilizer, or pesticide factory has the potential to make chemical weapons. Although they are easy and cheap to make, chemical weapons are difficult to efficiently or surreptitiously deliver. Large quantities may be needed to achieve mass casualties, but even limited use can have devastating psychological effects sufficient to achieve strategic objectives. Chemical threats include choking, blister and nerve agents as well as hazardous materials such as toxic industrial chemicals.

Biological

Biological agents-- pathogens and toxins-- are potentially capable of spreading disease to large segments of a target population, or they may be used to attack fuel supplies, livestock, or crops. Pathogenic microorganisms enter the body through the body openings (nose, mouth, etc.) or penetrate the skin and then multiply, eventually causing disease by overloading the body's natural disease-fighting capabilities. Toxins are poisonous by-products of microorganisms, plants and animals. Some toxins can be synthetically produced. Toxins work by interfering with basic living functions such as breathing or nerve-muscle control performance. Some of these weapons may be produced using pharmaceutical or fermentation facilities, and small amounts may have widespread effects.

Delivery Methods

NBC weapons can be delivered by various means. Developed countries have used aircraft and artillery for decades. Newer delivery platforms of concern include ballistic or cruise missiles. As the technology and industrial capacity necessary to design and build these weapons continues to spread, potential adversaries may acquire them through theft , purchase, or indigenous development. Surreptitious delivery means include personnel, ground vehicles, watercraft, unmanned aerial vehicles (UAVs), or means as simple as infected humans or animals. A state or non-state adversary can use any of these methods; to counter them requires a robust set of defenses capable of meeting this varied threat. Weapons effects on or near US bases and other targets of strategic value

may severely impact operations. Close cooperation between military and civil authorities is vital to prevent delivery of NBC.

CHAPTER TWO

AEROSPACE POWER IN COUNTER NBC OPERATIONS

A balanced and integrated strategy of proliferation prevention, counterforce, active defense, and passive defense efforts is vital to counter the NBC threat across the full spectrum of conflict and enable the Air Force to bring its core competencies to bear to support commanders' objectives.

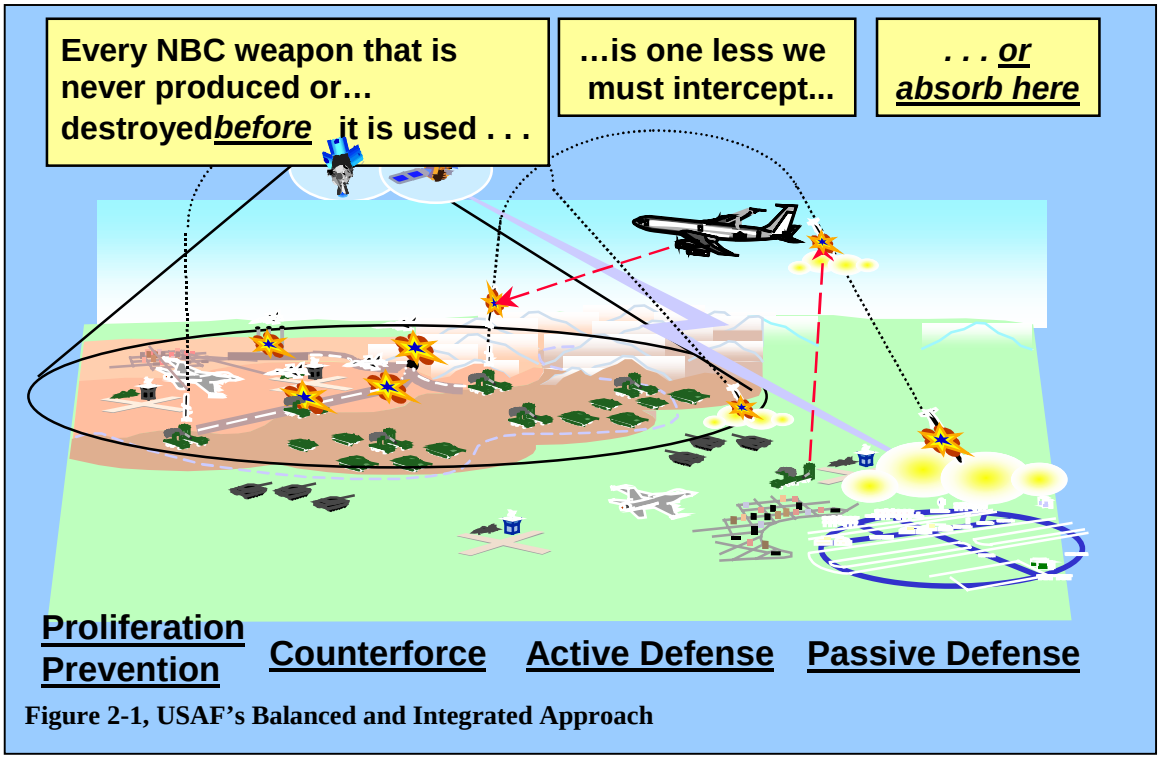

Figure 2-1, USAF's Balanced and Integrated Approach

As shown in figure 2-1, the first layer of counter NBC operations is to prevent or roll back the proliferation of NBC weapons through export controls and treaty agreements. The next component of this integrated strategy is to attack NBC weapons

and their associated delivery, production, and storage facilities prior to their use which enables the joint force commander (JFC) to reduce the NBC threat to friendly operations. Failing that, interception of conventional and unconventional delivery methods provides the next layer of counter NBC operations. Finally, maintenance of a strong capability to survive and operate when exposed to an NBC attack reduces the utility of NBC weapons.

Operations from fixed bases make counter NBC operations of paramount importance. The vital strategic importance of aerospace systems to the full range of US military operations makes bases, personnel, and systems potential targets for NBC operations. NBC attacks can adversely affect the full range of aerospace operations. At best, operations tempo will be reduced along with sortie rates and individual personnel effectiveness as operations are degraded by individual protective equipment and contamination control measures.

MAJOR COMPONENTS OF COUNTER NBC OPERATIONS

Proliferation Prevention

Proliferation prevention means denying attempts by would-be proliferants to acquire or expand their NBC capabilities. This is accomplished by:

- Providing inspection, verification, and enforcement support for nonproliferation treaties and NBC control protocols
- Supporting export control activities

- Assisting in the identification of potential proliferants before they can acquire or expand their NBC capabilities
- If directed by the National Command Authorities (NCA), planning and conducting attack missions during periods outside of hostilities

Aerospace power provides unique capabilities to detect the possession or development of NBC weapons. For example, intelligence, surveillance, and reconnaissance (ISR) systems enable the gathering of information on the development and possible deployment of NBC weapons. The Air Force performs many inspection, verification, and enforcement tasks with other service and government agencies. Significant effort is needed to monitor research, development, testing, production, and storage programs related to NBC agents, weapons, and delivery systems. Many of these programs are hard to identify due to their integration into civilian industry. Ballistic and cruise missile delivery systems deserve emphasis due to their capability to project beyond state boundaries and to penetrate traditional defenses. Proliferation prevention activities include support to the Treaty on Open Skies, Strategic Arms Reduction Treaty (START) visits, and on-site inspections. A robust proliferation prevention effort can help application of military force and reduce the likelihood of an attack on US civil or military interests within or outside the United States.

[Insert vignette such as Israel's attack on Iraq's Osirak nuclear reactor being used for weapons Operation BABYLON in 1981]

Counterforce Operations

Counterforce operations destroy or degrade an adversary's offensive NBC capability before it can be used against friendly forces. Aerospace forces are ideally suited for counterforce operations. Preempting an NBC attack, especially by missiles or aircraft, often requires that operations be conducted on short notice over extended ranges and with precision weapons. The speed, range, and versatility of aerospace forces enable rapid reaction to changing situations, targets, and environments. Advanced technology "smart" weapons make aerospace forces particularly suited to precise targeting with minimal collateral damage. *(Note that the use of counterforce in this doctrine document is not the same as the term defined in JP 1-02, "DOD Dictionary of Military and Associated Terms").*

Targets are frequently mobile and dispersed, or are maintained in hardened and deeply buried shelters and only vulnerable to direct attack for short periods of time. Command and control procedures must be in place to allow quick reaction by aerospace forces as targets are identified, and attacking forces may have to be maintained in a heightened state of readiness such as airborne or strip alert. ISR systems must focus on threat areas and collection priorities adjusted to facilitate rapid location of NBC elements. The release of NBC agents during a counterforce attack can cause extreme collateral damage and must be considered in the targeting process. A wide variety of forces and weapons can be used to conduct counterforce operations, from wide area munitions for attacks on dispersed terrorist or military installations, to precision, earth-penetrating

weapons for hardened and buried production and storage facilities. Special operations forces (SOF) and the air components of the other Services also play significant roles in finding, targeting, and attacking counterforce targets.

Active Defense

Active defense encompasses actions to destroy enemy NBC weapons and delivery vehicles while en route to their targets. This activity comprises defensive operations against aircraft, ballistic missiles, and cruise missiles. Active defense also encompasses force protection against SOF, unconventional warfare, and terrorists employing NBC weapons. The goal is to weaken or avert the adversary's strike to the degree that passive defenses can counter the effects of the NBC weapons on friendly operations. Commanders should emphasize destroying inbound weapons as far as possible from friendly forces or territory. Active defense should be integrated with the Air Force expeditionary capability. This means that tracking, cueing, communications, and active defense systems must be easily deployable and capable of operating in a variety of environments.

Passive Defense

NBC passive defense measures improve the capability of personnel to survive and sustain operations in an NBC environment. Despite the effectiveness of prevention, counterforce, and active defense, some weapons may reach their targets. Commanders assess the threat in relation to the mission and determine appropriate

passive defense measures. For example, preventive medicine (PVNTMED) or public health services (PHS) teams, through the theater surgeon, support commanders by conducting environmental testing and reviewing medical records to identify indications of NBC use.

Passive defense consists of contamination avoidance, protection, and contamination control.

USAF NBC avoidance includes:

- **Detection**
- **Identification**
- **Prediction**
- **Marking**
- **Dispersal**
- **Relocation or rerouting.**

✪ **Contamination Avoidance.** As defined by the Joint Chiefs of Staff (JCS), avoidance means taking actions to minimize the impact of an NBC attack and to reduce the effects of the NBC hazard. Detection enables early warning whereas identification provides the information necessary for a tailored response. Validated detection and identification standards and operational requirements are necessary to support sustained operations.

Throughout the full spectrum of conflict, from peacetime to major theater war (MTW), Air Force aerospace forces will normally operate from fixed locations. NBC detection includes the use of NBC point detection, standoff detection, counterintelligence, medical intelligence and risk assessment, human intelligence (HUMINT), signals intelligence (SIGINT), specialized teams, and operational and national intelligence assets.

✪ **Protection.** When contamination cannot be avoided, protection provides the force with survival measures to operate in an NBC environment. Protection is afforded by individual protective equipment, collective protection and physical shelters, toxic free areas, hardening, covering, and medical countermeasures (e.g., vaccinations, prophylaxis, exposure assessment). A proper level of protection based on mission impact is essential.

The joint task force (JTF) or installation commander may choose to increase or reduce the level of protective posture based upon mission requirements and the exact nature of a threat. Certain threats are more persistent than others and may require different types/levels of protection. For example, if the nature of the threat is biological, only respiratory/eye protection may be required and the added encumbrance of full protective equipment can be avoided. Similarly, certain chemical agents may be primarily respiratory threats. Therefore, the commander can optimize the personnel protection balance based upon proper identification of the threat agents and amounts used.

✪ **Contamination Control.** Contamination control is a combination of standard disease prevention measures and traditional CW contamination avoidance and decontamination measures. This includes procedures for reducing, removing, or rendering harmless, the hazards resulting from the contamination.

OTHER CONSIDERATIONS.

Three types of decontamination:

- **Immediate** - those actions done by personnel on themselves or their personal equipment.
- **Operational** - those actions required to prevent mission degradation due to contamination.
- **Thorough** - those actions required to remove or neutralize contamination to prevent further cross contamination (e.g. medical patient decontamination).

Integration. Effective battle management at strategic, operational, and tactical levels is needed to coordinate counter NBC actions and integrate efforts across disciplines. Commanders integrate personnel and resources from diverse specialties and assemble plans and intelligence to defeat NBC threats. Each major component of counter NBC operations is dependent upon the others to reduce adversary capability and maximize effectiveness. This is accomplished through:

- ***assessment*** - NBC intelligence preparation of the battlespace, friendly courses of action, environmental/health threat information, and NBC vulnerability analysis.
- ***situational awareness*** – knowing the current situation and assessing the future situation through integration of sensor, networks, reconnaissance, surveillance, weather, terrain, operations, and intelligence information.

- ***maximizing force effectiveness*** - optimizing resource allocation decisions and protective action measures through the use of risk assessment and decision support tools.

Host Nation Support. Passive defense requirements for host nation and coalition support personnel are important considerations during deliberate NBC planning and implementation processes.

Noncombatant Evacuation Operations. Passive defense plans should include non-combatant personnel protection.

Terrorist NBC Threat Response. NBC weapons threaten domestic and international communities on and near US facilities. The Air Force may be required to provide support to surrounding US and foreign communities.

RISK CONSIDERATIONS

Threats can come from multiple sources. They can be unexpected and include a broad range of tactics from clandestine operations to large-scale attacks. They may be intended to only hinder operations or they may be designed to cause massive casualties and force withdrawal. Determining the risk involved requires a concerted intelligence effort against potential aggressors. This is essential to devising a synergistic counter NBC operation. It is also vital to determining the priority trade-offs among types of

mission equipment deployed in the early stages of operations. For example, deploying robust active defense and passive defense capabilities could displace equipment needed for functions such as counterair, counterland, strategic attack, and impact survivability of personnel. Risk analysis, along with many of the other considerations, will help determine how to best apply the Air Force core competencies to the NBC threat.

CORE COMPETENCIES AND COUNTER NBC OPERATIONS

The speed, flexibility, and the global nature of its reach and perspective distinguish the Air Force's execution of its core competencies from the other Services. The core competencies of the Air Force make it uniquely qualified to counter an opponent's use, or threatened use, of NBC weapons in or through the use of the aerospace environment. The proper integration of the core competencies into the JFC's campaign plan can bring about the elimination or delay of employment of the adversary's NBC weapons. If aerospace forces fail to eliminate the threat prior to employment or fail to intercept delivery systems, an enemy's use of NBC weapons may severely degrade the Air Force's ability to fully support the JFACC's operation. Conducting counter NBC operations may place significant additional burdens on aerospace personnel, equipment, and the logistics system.

Air and Space Superiority

Air and space superiority provides freedom to attack, freedom to maneuver as well as freedom from attack. It is a necessary first step to all other military operations including those to counter a NBC capability.

Precision Engagement

Precision engagement is the ability to command, control, and employ forces to cause discriminate strategic, operational, or tactical effects. Recent advances in precision targeting, accurate weapons, and rapid global communications when combined with the traditional aerospace characteristics of range and speed have significantly advanced Air Force precision engagement capabilities. This is especially valuable in countering time sensitive NBC targets and in destroying buried or hardened facilities. Precision engagement is also vital in identifying and targeting terrorist activities while limiting collateral damage.

Information Superiority

Information superiority is that degree of dominance in the information domain permitting the conduct of operations without effective opposition. Fast-paced operations countering enemy NBC capabilities require near real-time, precise information that can be passed to offensive and defensive operators in time to achieve the greatest effects, and used by base personnel to conduct effective passive defense operations. At the same time, the enemy must be denied accurate targeting information and operational intelligence.

Global Attack

Global attack represents the unique ability of Air Force aerospace systems to attack a wide range of strategic, operational, or tactical targets rapidly and persistently with various munitions anywhere on the globe. The range, speed, and versatility of aerospace forces make them ideal for operations to counter an adversary's NBC capabilities. Additionally, the threat of rapid global attack reinforced by information superiority can play a strong role in proliferation prevention activities, deterring or inhibiting the development and use of NBC weapons.

Rapid Global Mobility

Rapid global mobility refers to the timely movement, positioning, and sustainment of military forces and capabilities through air and space, across the range of military operations. Deploying appropriate forces in a timely manner and then protecting them from threats is paramount to effective operations and to achieving an operational advantage. Rapidly providing the in-theater systems and facilities for NBC counterforce, and active and passive defense is crucial to any operation in such an environment.

Agile Combat Support

Agile combat support refers to the need of supporting an aerospace force that is poised for response to global tasking. The support system must be agile enough to provide needed weapons, supplies and facilities on very short notice and also be able to reduce the targetable "footprint" of deployed forces to a minimum. This is especially

important to counter NBC operations as they are likely to be short notice and may require the full spectrum of counterforce and active and passive defense capabilities.

CHAPTER THREE

COMMAND AND CONTROL

Command and control (C2) for counter NBC operations will vary depending upon the type of operation, the nature of the threat, and the set of capabilities applied to counter the threat. Counter NBC operations may be single Service, joint, or combined and may involve US and foreign civil authorities. This demands flexibility and connectivity between strategic, operational, and tactical command and control (C2) systems.

The delivery systems for NBC weapons may be difficult to detect, and, if employed, will present short warning times. The ability to employ offensive and defensive operations against this threat depends on a C2 structure that enables rapid reaction throughout the battlespace.

Offensive counter NBC operations can take place as part of an ongoing military operation or as part of a distinct joint task force (JTF) established for the purpose of countering an NBC threat. For example, during Desert Storm allied forces attacked biological warfare facilities as part of that operation. In the future, the National Command Authorities (NCA) may require a JTF for the sole purpose of planning and conducting a limited strike against a known NBC plant in a hostile country. Defensive counter NBC operations must be integrated into the day-to-day operations of aerospace forces. Active defense—missile defense and force protection—and passive defense C2

requirements should be integrated into the overall aerospace command and control system.

Command Authority

Counter NBC operations should be integrated into normal command relationships in peace or war. Aerospace forces may operate under a joint force commander (JFC) who exercises combatant command or operational control over the joint force. The joint force C2 support system gives the JFC the means to exercise that authority and direct assigned and attached forces to accomplish the mission. The JFC may appoint a joint force air component commander (JFACC) to direct aerospace operations, and the JFC will determine the priority for counter NBC targets in the overall campaign plan. The JFACC will integrate counter NBC operations into his master air attack plan and allocate sorties for counter NBC operations (though they may be designated OCA, DCA, etc). The area air defense commander (AADC), who normally is the JFACC, will coordinate the aerospace operations part of active defense. The JFC may appoint a joint rear area coordinator (JRAC). The JRAC is responsible for coordinating the overall security of the joint rear area and will coordinate force protection—to include passive defense—requirements across joint components. Aerospace commanders retain responsibility for force protection of their units, to include active defense (unconventional delivery, antiterrorism) and passive defense.

The JFACC may establish a theater missile defense (TMD) cell to coordinate offensive and defensive operations against ballistic missiles. The TMD cell will need to

closely coordinate with the JFC and AOC conducting ongoing counterforce, active defense, and passive defense operations to degrade an adversary's NBC weapons delivery capability. A warning and reporting network linking ISR systems with counterforce, active defense, and passive defense assets is required. This enables launch detection, tracking, engagement, impact prediction, and passive defense preparation. This network must provide rapid warning and reporting throughout the battlespace.

Force protection requires close coordination with all command and control components of counter NBC operations. Security forces, who may be the first to discover an NBC attack on an air base, can provide critical information to medical, intelligence and others in order to begin to control the attack, minimize casualties, and continue operations.

Operations on United States Territory

Counter NBC operations on US territory will be conducted by civilian agencies with support from military and aerospace forces. The nature of the operation, civilian capabilities, and the severity of the threat will guide the required support and command relationships. Therefore, Air Force personnel should expect to work with personnel from US Government agencies, state and local governments, and other US Services. Within CONUS, the US Army's Director of Military Support is the executive agent for DOD. Outside CONUS, but on US territory, the appropriate geographic commander-in-chief (CINC) is the executive agent for DOD and normally will assign a JFC to control DOD support to civil authorities.

When directed by the NCA, the US Commander-in-Chief Atlantic Command (USCINCACOM) within CONUS and US territories, or the appropriate geographical CINC (for non-contiguous states or territories) will establish and deploy a response task force (RTF). The RTF will support the designated lead federal agency in crisis and consequence management within the designated joint operations area (JOA). Aerospace forces that are a component of an RTF should expect to work with personnel from US government agencies, state and local governments, and other Services.

The US has assigned primary authority to the Federal Bureau of Investigation (FBI) and the Federal Emergency Management Agency (FEMA) to conduct counter NBC operations on the territory of the US There are two phases of domestic counter NBC operations: crisis management and consequence management.

- **Crisis management** includes measures to identify, prevent, and respond to an attack. The FBI, through the Attorney General, has the lead responsibilities during crisis management. Aerospace forces may be requested to provide mobility, command and control, and force protection, including passive defense support.

- **Consequence management** includes measures to provide emergency relief to governments, individuals and businesses in response to an incident involving NBC weapons or devices. Primary authority for consequence management rests with the state governments who may draw upon National

Guard assets during the initial stages. FEMA leads the federal agencies, including DOD, through the Attorney General. Aerospace forces may be requested to provide mobility, command and control, and force protection, including passive defense support.

In the event of an NBC incident on a military base in US territory there will likely be parallel lines of command over concurrent aspects of the operation. The installation commander will retain responsibility for ongoing military operations while the FBI assumes command over the crime scene. The installation commander may integrate military forces into the FBI response team and provide assistance such as technical expertise, logistics support, and manpower for the entire operation. Military forces will remain under military command at all times, and may provide or receive supplemental support, as appropriate.

Coordination with Other Services, Civilian Agencies, Coalition Partners and Host Nations

The Air Force must be prepared to conduct counter NBC operations in concert with other Services, civilian agencies, coalition partners, and host nations. Often these entities have operational capabilities and equipment or, conversely, weaknesses that could play a large factor in the Air Force's ability to survive and fight through an NBC attack. Clarifying responsibilities in advance will reduce the potential for confusion in the aftermath of an NBC attack. Developing a thorough understanding of opportunities and

capabilities is critical. Commanders should establish working relationships, remove barriers to sharing information, understand what other entities provide, and resolve equipment interoperability issues. JP 3-08, *Interagency Coordination During Joint Operations*, as well as JP 3-16, *Joint Doctrine for Multinational Operations*, address coordination issues in detail, though they need to be tailored to fit the counter NBC mission.

Support to Civilian Agencies and Coalition Partners

The commander should make every effort to coordinate Air Force efforts with federal, state and local agencies, international organizations, and non-government organizations (NGOs). Due to the asymmetrical nature of NBC warfare, close coordination with civilian counterparts becomes particularly critical. An adversary may attempt to undermine an operation or host nation support by targeting civilian populations, coalition partners and allies, or relief workers. Advance coordination with civilian agencies will minimize vulnerabilities and facilitate rapid response. Additionally, overseas commands have special responsibilities for US citizens and civilian assets in their geographical areas. Responsibilities such as noncombatant evacuation operations (NEOs) and other support to US citizens can be streamlined by establishing close relationships with civilian agencies.

Host Nation Considerations

Counter NBC operations must be coordinated in advance with host nations (HN) and coalition partners. Although the Air Force will not rely on HN support to provide a

capability to defend its personnel against NBC attack, HN support can be used to augment Air Force capabilities.

Effective coordination among Air Force and host nation activities enhances overall base operations and preparations for an NBC attack. The Air Force should develop agreements with the HN, in coordination with the staff of the regional CINC and the Department of State, to identify and improve coordination, logistics, medical access, and jurisdiction concerns. These procedures should be noted in base plans (where applicable).

CHAPTER FOUR

PLANNING AND SUPPORT OPERATIONS

GENERAL

Sustaining operations in an NBC environment requires a broad range of planning and support considerations. These include: targeting, strike planning, ISR, logistics, aeromedical evacuations, health service, and legal issues in addition to coordination considerations with civilian agencies, coalition members and host nations. All of these factors are critical to the Air Force's capability to counter the threat or presence of NBC weapons. Proliferation prevention, counterforce and active defense may not stop every NBC attack or eliminate a weapon without releasing NBC contamination. Commanders should carefully consider the potential collateral consequences of proliferation prevention, counterforce and active defense. Targeting and strike planning should use all sources of intelligence to ensure minimal collateral NBC effects. Commanders must ensure counter NBC plans are ready, comprehensive, and exercised.

TARGETING CONSIDERATIONS

Pre-strike Planning

Before strikes can be made against any target, a commander needs accurate intelligence, surveillance, and reconnaissance (ISR) data. Information is needed on target characteristics, such as NBC agent production, storage, weaponization, and

delivery sites. This information should be used to avoid unplanned NBC agent release, and to plan the correct force mixture to neutralize the target.

NBC targets can include production, storage, weaponization, and delivery sites. Targeting must consider the type of agents and their containment within facilities and vehicles, proximity to population centers, adversary active and passive defenses to include anti-aircraft weapons systems and facility hardening. Large-scale research, development, and production may be detected through the construction of the facilities, which can be investigated through human and sensor means. Other factors include law of armed conflict (LOAC) and its relation to innocent civilians as well as the possible effects to Allied and US forces. All of these target considerations will affect the mission planning for the correct force mixture to deliver the right weapon to defeat NBC capability with minimum collateral effect.

Intelligence, Surveillance, and Reconnaissance (ISR)

ISR is a key element of counter NBC operations. ISR seeks to detect, identify, and track the development and deployment of NBC weapons by both state and non-state actors. This includes the use of national and theater systems to collect and analyze data, and disseminate the results. The unique signature of NBC weapons, devices, and materials enables the use of specialized detectors to complement standard ISR platforms, such as JSTARS, AWACS and satellites. Constant medical surveillance looking at local disease incidence may reveal sources of large-scale biological or chemical production.

However, small-scale and portable programs will be more difficult to detect and investigate, which may require shorter and more time-urgent methods.

ISR supports all aspects of the counter NBC mission. In terms of proliferation prevention, ISR monitors the development of NBC weapons allowing the international community to take steps preventing the further development and deployment of NBC. ISR is also a critical supporting component of counterforce. A commander must have accurate ISR data to determine the targets, including type of targets, characteristics, proximity to population centers, and defenses. In terms of active defense, ISR systems play a vital role in detecting, tracking, and warning of air and missile attacks, and may help identify NBC weaponized missiles. Additionally, ISR needs to provide unit commanders with an assessment of conventional and nonconventional capabilities that may be used against friendly personnel. For units within US territory, domestic law enforcement and other agencies that track ongoing criminal activity will probably provide this information. Finally, ISR supports passive defense by providing information on the threat, early warning, and other information vital to a commander's ability to decide how best to protect the base.

Collateral Effects

The release of NBC agents may be a direct result of proliferation prevention interdiction, counterforce, and active defense operations. Civilians, any host nation population, allied and US military personnel can be affected. As a result, all strikes against NBC targets need to be carefully planned and coordinated.

DEPLOYMENT/REDEPLOYMENT CONSIDERATIONS

Logistics.

NBC logistic support requirements should be based on the most current threat assessments. Complete protection packages require significant airlift capability. Consider using prepositioned assets, equipment carried by deploying units, consumables (i.e. Individual Protection Equipment (IPE), filters, etc.). The level of mission essential consumables must be added to the logistics flow in a timely manner. Lists of required materiel should be visible to logistics planners to reduce movement of equipment into or out of a NBC environment. Retaining all onsite NBC protective equipment when teams redeploy will reduce transportation support for sustained operations. The support system must be agile enough to provide needed weapons, supplies and facilities on short notice and also able to reduce the targetable “footprint” of deployed forces to a minimum. This is especially important to counter NBC operations as they are likely to be short notice and may require the full spectrum of counterforce and active and passive defense capabilities.

Contract Airlift.

Civil Contract and the Civil Reserve Air Fleet (CRAF) will not plan to operate in a contaminated environment.

Transload.

If circumstances preclude civil/CRAF aircraft from operating in a theater, a transload location may need to be identified where civil cargo/passengers may be transferred to alternate transportation means (sea, rail, intratheater, etc.) for onward movement. Additionally, if a significant number of military airlift aircraft become contaminated, another version of a transload operation should be considered. This transload operation is divided into clean, exchange, and contaminated zones. Cargo and passengers are off-loaded from clean aircraft in the clean zone, relocated to the exchange zone, and finally reloaded onto a potentially contaminated aircraft in the contaminated zone. Personnel will have to assume appropriate Mission-Oriented Protective Posture (MOPP) level prior to entering the exchange and contaminated areas. These transload operations will be very manpower and equipment intensive since two separate cargo and passenger operations occur simultaneously at one location.

Decontamination Standards.

Since internationally recognized scientific standards and established legal requirements for acceptable decontamination levels have not been established, some allied/friendly nations may deny transit rights. Similar problems within the US also exist and may require the identification of remote airfields for the purpose of decontaminating, weathering, or destroying the effected aircraft.

Mortuary Affairs.

Contaminated remains will not be allowed on board military aircraft or AMC-directed/supported airlift. The remains must be temporarily interred or decontaminated before they can be transported, in accordance with Joint Publication 4-06, *Joint Tactics,Techniques and Procedures for Mortuary Affairs in Joint Operations.*

SUSTAINING OPERATIONS

Protective Posture and the assumption of risk

The JFC, JRAC, COMAFFOR or installation commander may choose to increase or reduce the level of protective posture based upon mission ops tempo and the exact nature of the threat at the time. Certain threats are of a more persistent nature than others and require certain types/levels of protection. For example, if the nature of the threat is biological in nature, only respiratory and eye protection may be required and added encumbrance can be avoided. Similarly, certain chemical agents may be primarily respiratory threats or, conversely, only skin contact threats. Based upon proper identification of the threat agents and amounts, the commander can optimize the balance between the pace of operations and personnel protection.

[**Vignette that discusses]**

The use of increased protective postures can mean the substitution of one hazard for another. NBC protective ensembles are, unfortunately, hot and bulky. Wearing them in hot climates increases the likelihood of casualties due to heat stress and related

complications. Even if temperature is not a concern, hearing and speaking is degraded while wearing the mask and hood. A risk-benefit analysis is essential when considering MOPP level.

A commander must realize protective equipment does not completely protect personnel. Not everyone is protected at the same levels by the IPE. Protective gear and actions are not perfect. A working understanding of how contaminants work and their exposure characteristics is paramount to protecting personnel and sustaining operations.

HEALTH SERVICE SUPPORT OPERATIONS

NBC weapons present medical challenges unique to the counter NBC mission. Air Force Medical Service (AFMS) is responsible for establishing medical plans, policies, and programs; obtaining and allocating medical resources; and evaluating medical operational capabilities. Activities range from active medical surveillance, aerospace medicine, preventive medicine, clinical analysis, and risk management. The goal of the AFMS is to help identify possible NBC threats and be prepared to mobilize, deploy, and operate in response to a range of threats and to provide quality medical support and health care to Air Force operations.

AFMS should be prepared, trained, and organized to meet combat and combat support requirements despite the complicating presence of NBC weapons and their effects. The following AFMS missions apply to counter NBC operations.

Medical Intelligence

The Armed Forces Medical Intelligence Center (AFMIC) advises the theater surgeon of the medical threats by evaluating a potential adversary's NBC capabilities. Medical intelligence should encompass indigenous and enemy threats; a concise description of all national medical resources in the deployment area, to include availability and capabilities of host nation, joint, or coalition-held medical assets; the effects of operating in MOPP. Constant medical surveillance looking at local disease incidence may also reveal and identify sources of large-scale chemical and biological production facilities by the effects caused by possible leakage or other by-products. The theater surgeon can then advise the commander of appropriate actions required permitting his personnel to effectively and safely function in the affected theater of operations.

Casualty Management

Air Force medical providers must be trained to perform medical management of NBC casualties. In an NBC environment, limited medical assets will be quickly exhausted. Addressing supplies, logistics and personnel is a priority. Medical treatment of casualties is difficult in IPE, and medical personnel require protected medical facilities to effectively conduct medical operations. Mass casualty plans should be formulated.

The Effects of NBC Agents on Health Service Support Operations

The effects of most chemical and biological warfare (CBW) agents can be prevented through immunization, pre- and post-exposure chemoprophylaxis, and protective clothing. These measures help deny access of agents to lungs, digestive tract, and skin. Communication between line and medical personnel is critical in assessing potential environmental or other NBC exposure risks. Once NBC has been used, identification of agents is critical to further operations. Education, training, and effective exercises play a big part in countering the affects of NBC agents.

- **Protection**. NBC exposure may affect a casualty's access to medical care regardless of medical condition. To maintain effectiveness of medical personnel and facilities, patients must be decontaminated prior to receiving treatment at the medical treatment area.

- **Detection**. Threat information on potential use of NBC weapons/agents is important for planning and executing health service support (HSS) operations. Systems must be available to detect NBC agents and medical personnel must be trained to use them, but in their absence, agents are recognized and identified by symptoms, physical findings and the tracking of disease outbreak. Medical personnel must be educated and trained regarding the signs and symptoms of NBC agents. Early signs and symptoms of most agents are identical or similar to

those of many common diseases. PVNTMED and PHS teams perform environmental and other risk assessments or testing, and review medical treatment logs to help identify possible trends indicating NBC usage or exposure.

✪ **Decontamination**. Effectiveness of decontamination procedures is directly proportional to the time lapse between initial contamination and removing the NBC agent from an individual. Initial management and treatment of contaminated casualties varies with the tactical situation and nature of agent. Plans must be available to deal with possible scenarios.

Aeromedical Evacuation

Aeromedical evacuation (AE) doctrine is to “evacuate and replace” casualties; however, NBC conditions complicate this process. Potentially contaminated patients must be decontaminated before entering the AE system unless the theater and USTRANSCOM CINCs direct otherwise. Decontamination and processing procedures must be in place to prevent and assure appropriate NBC agent protection for patients, aircrew, and aircraft. A variety of medical decontamination teams identify and neutralize contaminants and perform early diagnoses to protect AE crew members and other patients. Once patients are externally decontaminated, further AE decisions are based upon actual or suspected clinical diagnosis and patient condition(s). AE and medical personnel and commanders must apply specific control measures as documented in joint, Service, NATO, or other NBC doctrine, field manuals, or guidelines.

Many NBC casualties may be safely evacuated. Biological warfare (BW) casualties can be evacuated by using basic infection control guidelines. Others pose significant challenges. Evacuating potentially contaminated patients requires approval of the destination country, over-flight privileges, and approval of any country where the aircraft will land for servicing or where patients will remain overnight. (*Note: Countries from whom approval is sought are bound by Article 212 of the Geneva Conventions for the Amelioration of the Condition of the Wounded and Sick in Armed Forces in the Field (1949) to ensure humanitarian treatment to wounded and sick*.) This should include approval under most circumstances of transit of those injured by exposure to biological toxins. Coordination between the theater CINC, USCINCTRANS, USTRANSCOM/SG and the Department of State is required for such movements.

LEGAL ISSUES

Use of NBC weapons by an adversary could have significant consequences in terms of legal ramifications in the international community. Commanders need to know that the US Government will require evidence and specimens in order to start the appropriate international actions and to determine the appropriate US reactions. An adversary may deny having used NBC weapons. Collecting specimens, recording events, and establishing formal legal chain-of-custody for all evidence is required. Similarly, the commander needs to understand the potential legal ramifications of any decision that could result in collateral damage and understand the procedures for making such

decisions. During operations, the commander and staff should have access to and seek legal advice as needed.

CHAPTER 5

EDUCATION, TRAINING AND EQUIPMENT

Education and training, supported by realistic exercises and wargames, are vital to ensure the Air Force can conduct counter NBC operations. Combat forces operating from CONUS and overseas forward deployed air bases can maintain sortie generation rates and support operations only if Air Force personnel understand NBC threat environments and have honed the skills required for counter NBC operations.

EDUCATION

A key aspect of ensuring that AF personnel have the requisite knowledge to perform the counter NBC mission is a quality education that teaches personnel to function across the spectrum of military operations, regardless of environment. The goal of education must be to ensure that all Air Force personnel understand the principles, threat environment, agent characteristics, and appropriate actions to take to counter the NBC threat. Success in counter NBC operations requires the active participation of all members of the Air Force and thus, all must understand the nature of operating in the NBC environment. Air Force personnel with responsibilities for counter NBC functions should also understand the capabilities possessed by civilian and sister Service units.

Formal education on counter NBC should be given at all levels of an airman's career, regardless of position or rank. In addition, commanders require sufficient education to ensure effective decision-making in an NBC environment.

TRAINING

Another aspect of preparing individuals to function in an NBC environment is training individuals, units, and staffs to a high level of counter NBC proficiency. Training at all levels, from basic military training to unit training should include:

- Individual/personal protection, collective protection, and in/out processing
- Basic passive defense measures to ensure base defense, survival, and recovery; working knowledge of how the air base should function cohesively to survive and operate in an NBC environment.
- Active defense training
- Counterforce activities such as sortie generation, identifying and destroying NBC targets.

All personnel should have the requisite skills to perform in an NBC environment, and must understand how to help their unit survive and operate in that environment.

Accession Training

Accession training prepares members for service by providing indoctrination to the military culture, organization, and mission. The pervasive nature of the NBC threat requires that basic training include a review of the NBC threat, and discussion of the relevant combat skills needed to defend and operate in an NBC environment. The NBC

threat exists at every assignment location, so indoctrination should underscore the fact that countering the NBC threat is everyone's responsibility.

Operational Training

Operational training must build on the basics taught in accession training to provide the necessary technical skills to be a functional participant in counter NBC operations. Operational training may also include specialty training to help conduct counter NBC-specific functions or skills to augment functional groups primarily responsible for NBC defense.

Continuation or Recurring Training

Continuation or recurring training maintains and refines skills necessary to perform the counter NBC mission. Since continuation or recurring training sharpens knowledge of counter NBC functions and operations, this type of training must meet the highest standards. It will provide the means by which Air Force personnel learn about changes in counter NBC policies and procedures. Additionally it will prepare them for increased responsibility, to include training others, leading forces, and planning counter NBC operations.

Commanders will ensure their units are trained and able to perform in NBC threat environments. Continuation training enables a commander to assess organizational

capabilities and to maintain the unit's ability to survive and operate in NBC threat environments.

EXERCISES AND WARGAMES

Exercises should include a realistic NBC element and that participants are required to demonstrate their skills in personal protection, performing wartime functions, and working together as an integrated unit in a NBC contaminated area. An exercise should emphasize all aspects of operations in an NBC environment including command and control, planning, logistics, medical response, force protection, and individual and collective protection. Where possible, Air Force units should also conduct joint and coalition counter NBC exercises to develop and improve interoperability. Through counter NBC wargaming scenarios, existing strategies and future concepts are tested. At the strategic level**,** senior leaders develop judgment in applying the core competencies across the range of military operations to counter NBC threats. At the operational level, wargaming emphasizes judgment in the employment of aerospace forces to counter NBC weapons. Realistic exercises (those with joint, interagency and coalition partners) and wargaming are essential to find shortfalls and test corrective actions. Commanders should continually assess the effects that training and wargaming have on their units' ability to conduct their wartime mission.

Summary

The current and future threat of an NBC attack on US Air Force operations demands the implementation and utilization of effective counter NBC education and training. At each level of training, a working knowledge of counter NBC operations is essential. Counter NBC education and training must include realistic survive-to-operate exercises and scenarios, in-depth and basic instruction, and cross-functional involvement to be effective in the event counter NBC operations are needed.

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GLOSSARY

Abbreviations and Acronyms

AAA	antiaircraft artillery
ACC	air component commander
AE	aeromedical evacuation
AFDD	Air Force Doctrine Document
AFMS	Air Force Medical Service
AI	air interdiction
ATP	Allied Tactical Publication
AOR	area of responsibility
ASETF	Aerospace Expeditionary Task Force
C2	command and control
CAP	combat air patrol
CAS	close air support
CBW	chemical and biological warfare
COG	center of gravity
COMAFFOR	Commander, Air Force Forces
CONUS	continental United States
CRAF	civil reserve air fleet
CSAR	Combat Search and Rescue
DCA	defensive counterair
DOC	Designed Operational Capability
DOD	Department of Defense
DODD	Department of Defense Directive
ELINT	electronic intelligence
IO	information operations
IPE	individual protective equipment
ISR	intelligence, surveillance, and reconnaissance
JA	Judge Advocate
JAOC	joint air operations center
JFACC	joint force air component commander
JFC	joint force commander
JP	joint publication
JTF	joint task force
JRAC	joint rear area coordinator
LOAC	Law of Armed Conflict

LNO	liaison officer
MOOTW	Military Operations Other Than War
MOPP	mission-oriented protective posture
NBC	nuclear, biological, and chemical
NCA	National Command Authorities
NGO	non-governmental organization
OCA	offensive counterair
OPCON	operational control
PHS	public health service
PVNTMED	preventive medicine
RDD	radiological dispersal device
SEAD	suppression of enemy air defenses
SO	special operations
TACON	tactical control
UAV	unmanned aerial vehicle

Definitions

administrative control. Direction or exercise of authority over subordinate or other organizations in respect to administration and support, including organization of Service forces, control of resources and equipment, personnel management, unit logistics, individual and unit training, readiness, mobilization, demobilization, discipline, and other matters not included in the operational missions of the subordinate or other organizations. Also called **ADCON**. (JP 1-02).

airlift. Operations to transport and deliver forces and materiel through the air in support of strategic, operational, or tactical objectives. (AFDD 1)

air refueling. The capability to refuel aircraft in flight, which extends presence, increases range, and allows air forces to bypass areas of potential trouble. (AFDD 1)

battlespace. The commander's conceptual view of the area and factors which he must understand to successfully apply combat power, protect the force, and complete the mission. It encompasses all applicable aspects of air, sea, space, and land operations that the commander must consider in planning and executing military operations. The battlespace dimensions can change over time as the mission expands or contracts according to operational objectives and force composition. Battlespace provides the commander a mental forum for analyzing and selecting courses of action for employing military forces in relationship to time, tempo, and depth. (AFDD 1)

biological agent. A microorganism that causes disease in personnel, plants, or animals or causes the deterioration of materiel (JP 1-02)**.**

chemical agent. A chemical substance which is intended for use in military operations to kill, seriously injure, or incapacitate personnel through its physiological effects. The term excludes riot control agents, herbicides, smoke, and flame (JP 1-02).

close air support. Air action by fixed- and rotary-wing aircraft against hostile targets which are in close proximity to friendly forces and which require detailed integration of each air mission with the fire and movement of those forces. Also called **CAS**. (JP 1-02)

close support. That action of the supporting force against targets or objectives which are sufficiently near the supported force as to require detailed integration or coordination of the supporting action with the fire, movement, or other actions of the supported force. (JP 1-02)

coalition. An ad hoc arrangement between two or more nations for common action. (JP 1-02)

combatant command (command authority). Nontransferable command authority established by title 10 ("Armed Forces"), United States Code, section 164, exercised only by commanders of unified or specified combatant commands unless otherwise directed by the President or the Secretary of Defense. Combatant command (command authority) cannot be delegated and is the authority of a combatant commander to perform those functions of command over assigned forces involving organizing and employing commands and forces, assigning tasks, designating objectives, and giving authoritative direction over all aspects of military operations, joint training, and logistics necessary to accomplish the missions assigned to the command. Combatant command (command authority) should be exercised through the commanders of subordinate organizations. Normally this authority is exercised through subordinate joint force commanders and the Service and/or functional component commanders. Combatant command (command authority) provides full authority to organize and employ commands and forces as the combatant commander considers necessary to accomplish assigned missions.

Operational control is inherent in combatant command (command authority). Also called **COCOM**. (JP 1-02)

command and control. The exercise of authority and direction by a properly designated commander over assigned and attached forces in the accomplishment of the mission. Command and control functions are performed through an arrangement of personnel, equipment, communications, facilities, and procedures employed by a commander in planning, directing, coordinating, and controlling forces and operations in the accomplishment of the mission. Also called **C2**. (JP 1-02)

compatibility. Capability of two or more items or components of equipment or material to exist or function in the same system or environment without mutual interference. (JP 1-02)

counterair. A US Air Force term for air operations conducted to attain and maintain a desired degree of air superiority by the destruction or neutralization of enemy forces. Both air offensive and air defensive actions are involved. The former range throughout enemy territory and are generally conducted at the initiative of the friendly forces. The latter are conducted near or over friendly territory and are generally reactive to the initiative of the enemy air forces. (JP 1-02) *[A function conducted to attain and maintain a desired degree of air superiority. Counterair integrates and exploits the mutually beneficial effects of offensive and defensive operations by fixed- and rotary-wing aircraft, surface-to-air and air-to-air missiles, antiaircraft guns, artillery, and*

electronic warfare to destroy or neutralize enemy aircraft and missile forces both before and after launch.]

{Italicized definition in brackets applies only to the Air force and is offered for clarity.}

counterforce operations. Operations that are intended to destroy or degrade an adversary's offensive NBC capability before it can be used against friendly forces. {This definition is not the same as the JP 1-02 definition. Used in this context because it best describes the desired effect}.

counterland. Operations conducted to attain and maintain a desired degree of superiority over surface operations by the destruction, disrupting, delaying, diverting, or other neutralization of enemy forces. The main objectives of counterland operations are to dominate the surface environment and prevent the opponent from doing the same. (AFDD 1)

countersea. Operations conducted to attain and maintain a desired degree of superiority over maritime operations by the destruction, disrupting, delaying, diverting, or other neutralization of enemy naval forces. The main objectives of countersea operations are to dominate the maritime environment and prevent the opponent from doing the same.

direct support. A mission requiring a force to support another specific force and authorizing it to answer directly the supported force's request for assistance. (JP 1-02)

force protection. Security program designed to protect Service members, civilian employees, family members, facilities, and equipment, in all locations and situations, accomplished through planned and integrated application of combating terrorism, physical security, operations security, personal protective services, and supported by intelligence, counterintelligence, and other security programs (JP 1-02).

functional component command. A command normally, but not necessarily, composed of forces of two or more Military Departments which may be established across the range of military operations to perform particular operational missions that may be of short duration or may extend over a period of time. (JP 1-02)

host nation. A nation which receives the forces and/or supplies of allied nations and/or NATO organizations to be located on, to operate in, or to transit through its territory (JP 1-02).

joint force . A general term applied to a force composed of significant elements, assigned or attached, of two or more Military Departments, operating under a single joint force commander. (JP 1-02)

joint force air component commander. The joint force air component commander derives authority from the joint force commander who has the authority to exercise operational control, assign missions, direct coordination among subordinate commanders, redirect and organize forces to ensure unity of effort in the accomplishment of the overall

mission. The joint force commander will normally designate a joint force air component commander. The joint force air component commander's responsibilities will be assigned by the joint force commander (normally these would include, but not be limited to, planning, coordination, allocation, and tasking based on the joint force commander's apportionment decision). Using the joint force commander's guidance and authority, and in coordination with other Service component commanders and other assigned or supporting commanders, the joint force air component commander will recommend to the joint force commander apportionment of air sorties to various missions or geographic areas. Also called **JFACC**. (JP 1-02)

joint force commander. A general term applied to a combatant commander, subunified commander, or joint task force commander authorized to exercise combatant command (command authority) or operational control over a joint force. Also called **JFC**. (JP 1-02)

joint rear area coordinator . The officer with responsibility for coordinating the overall security of the joint rear area in accordance with joint force commander directives and priorities in order to assist in providing a secure environment to facilitate sustainment, host nation support, infrastructure development, and movements of the joint force. The joint rear area coordinator also coordinates intelligence support and ensures that area management is practiced with due consideration for security requirements. Also called JRAC. (JP 1-02).

joint task force. A joint force that is constituted and so designated by the Secretary of Defense, a combatant commander, a subunified commander, or an existing joint task force commander. Also called JTF. (JP 1-02)

joint theater missile defense. The integration of joint force capabilities to destroy enemy theater missiles in flight or prior to launch or to otherwise disrupt the enemy's theater missile operations through an appropriate mix of mutually supportive passive missile defense; active missile defense; attack operations; and supporting command, control, communications, computers, and intelligence measures. Enemy theater missiles are those that are aimed at targets outside the continental United States. Also called JTMD (JP 1-02).

nuclear, biological, and chemical capable nation. A nation that has the capability to produce and employ one or more types of nuclear, biological, and chemical weapons

across the full range of military operations and at any level of war in order to achieve political and military objectives (JP 1-02).

nuclear weapon. A complete assembly (i.e., implosion type, gun type, or thermonuclear type), in its intended ultimate configuration which, upon completion of the prescribed arming, fusing, and firing sequence, is capable of producing the intended nuclear reaction and release of energy (JP 1-02).

operational control. Transferable command authority that may be exercised by commanders at any echelon at or below the level of combatant command. Operational control is inherent in combatant command (command authority). Operational control may be delegated and is the authority to perform those functions of command over subordinate forces involving organizing and employing commands and forces, assigning tasks, designating objectives, and giving authoritative direction necessary to accomplish the mission. Operational control includes authoritative direction over all aspects of military operations and joint training necessary to accomplish missions assigned to the command. Operational control should be exercised through the commanders of subordinate organizations. Normally this authority is exercised through subordinate joint force commanders and Service and/or functional component commanders. Operational control normally provides full authority to organize commands and forces and to employ those forces as the commander in operational control considers necessary to accomplish assigned missions. Operational control does not, in and of itself, include authoritative direction for logistics or matters of administration, discipline, internal organization, or unit training (JP 1-02).

passive defense. Passive defense measures improve the capability of personnel to survive and sustain operations in an NBC environment. It consists of contamination avoidance, protection, and contamination control.

proliferation prevention. Denying attempts by would-be proliferants to acquire or expand their NBC capabilities by providing: inspection, verification, and enforcement support for nonproliferation treaties and NBC control protocols; supporting export control activities; assisting in the identification of potential proliferants before they can acquire or expand their NBC capabilities; and, if so directed by the National Command Authorities (NCA), planning and conducting attack missions during periods outside of hostilities.

Radiological dispersal device. Any device, other than a nuclear explosive device, that disseminates radiation to cause damage or radiation injury.

tactical control. Command authority over assigned or attached forces or commands, or military capability or forces made available for tasking, that is limited to the detailed and, usually, local direction and control of movements or maneuvers necessary to accomplish missions or tasks assigned. Tactical control is inherent in operational control. Tactical control may be delegated to, and exercised at any level at or below the level of combatant command.

theater missile. A missile, which may be a ballistic missile, a cruise missile, or an air-to-surface missile (not including short-range, non-nuclear, direct fire missiles, bombs, or rockets such as Maverick or wire-guided missiles), whose target is within a given theater of operation. (JP 1-02).